In the Claims

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)

7. (Previously Amended) A method for inspecting a BGA joint comprising the steps of:

finding a location of the BGA joint;

improving the location using a fine locator;

measuring, in a slice image, a plurality of diameters through the BGA joint at predetermined angles; and

applying a rule to compare the measured diameters to an expected diameter wherein the rule comprises calculating a sum in the form of:

$$\sum_{i=}^{N} (D-d[i])^2$$

where D is the expected diameter and d[i] are the measured diameters.

8. (Original) A method for inspecting a BGA joint as claimed in claim 7, wherein the rule further comprises comparing the sum to a threshold.

9. (Cancelled)
10. (Cancelled)
11. (Cancelled)

12. (Currently Amended) A method for inspecting a BGA joint comprising the steps of:

finding a location of the BGA joint;

applying a plurality of locator windows over the BGA joint along the X-axis and a plurality of locator windows over the BGA joint along the Y-Axis;

locating BGA joint edges within the plurality of locator windows;

determining a located center of the BGA joint based on the location of the BGA joint edges;

~~improving the location using a fine locator;~~

measuring, in a slice image, a plurality of diameters through the BGA joint at predetermined angles; and

calculating a deviation using the measured diameters and an expected diameter.

13. (Previously Presented) A method for inspecting a BGA joint as claimed in claim 12, further comprising the step of comparing the deviation to a threshold.

14. (Previously Presented) A method for inspecting a BGA joint as claimed in claim 12, wherein the plurality of diameters are measured at the located center of the BGA joint.

15. (Previously Presented) A method for inspecting a BGA joint as claimed in claim 12, wherein the step of finding the location of the BGA joint comprises applying a centroid-based rough locator to the slice image.

16. (Cancelled)

17. (Currently Amended) A method for inspecting a BGA joint as claimed in claim 16, wherein locating BGA joint edges within the plurality of locator windows ~~locating two ball edges within the locator window~~ comprises applying a derivative edge finder on either side of the BGA joint.

18. (Cancelled)

19. (Previously Presented) A method for inspecting a BGA joint as claimed in claim 12, wherein the deviation comprises a sum of the differences between the measured diameters and the expected diameter.

20. (Previously Presented) A method for inspecting a BGA joint as claimed in claim 19, wherein the deviation comprises a sum in the form of:

$$\sum_{i=}^{n} (D-d[i])^2$$

where D is an expected diameter and d[i] are the measured diameters.

21. (New) A method for inspecting a BGA joint as claimed in claim 12, wherein the slice image is a synthesized slice image.

22. (New) A method for inspecting a BGA joint as claimed in claim 12, wherein the slice image is an actual slice image.